

Summer Vacation Holiday Homework

Class – VIII

Subject – Mathematics

Q 1. Which of the following rational numbers lies between and $\frac{1}{4}$?

a) $\frac{-1}{5}$ b) $\frac{-2}{5}$ c) $\frac{-1}{3}$

Q 2. Which of the following is a false statement?

a) $a \div b$ is a rational number b) $-a \div a = -1$ c) $(a \div b) \div c \neq a \div (b \div c)$

Q 3. Find the reciprocal of the following rational numbers:

(a) $-\frac{3}{4}$

(b) 0

(c) $\frac{6}{11}$

(d) $\frac{5}{-9}$

Q 4. What properties, the following expressions show?

(i) $\frac{2}{3} + \frac{4}{5} = \frac{4}{5} + \frac{2}{3}$

(ii) $\frac{1}{3} \times \frac{2}{3} = \frac{2}{3} \times \frac{1}{3}$

Q 5. What is the multiplicative identity of rational numbers?

Q 6. If $a = \frac{1}{2}$, $b = \frac{3}{4}$, verify the following:

(i) $a \times b = b \times a$

(ii) $a + b = b + a$

Q 7. Represent the following rational numbers on number line

a) $\frac{-3}{8}$ b) $\frac{11}{3}$ c) $\frac{9}{7}$

Q 8. Calculate the following:

(a) $\frac{-4}{5} \times \frac{3}{7} + \frac{4}{5} \times \frac{3}{7}$ (b) $\frac{1}{2} \times \frac{5}{6} + \frac{1}{3} \times \frac{1}{4}$

Q 9. Show that

$$\left(\frac{-8}{9} \times \frac{1}{-5}\right) + \left(\frac{-8}{9} \times \frac{-7}{11}\right) = \frac{-8}{9} \times \left(\frac{1}{-5} + \frac{-7}{11}\right)$$

Q 10. The product of two rational numbers is $\frac{15}{56}$. If one of the numbers is $\frac{-5}{48}$, find the other.

Q 11. Let a, b, c be the three rational numbers where $a = \frac{2}{3}$, $b = \frac{4}{5}$ and $c = \frac{-5}{6}$

Verify:

- (i) $a + (b + c) = (a + b) + c$ (Associative property of addition)
(ii) $a \times (b \times c) = (a \times b) \times c$ (Associative property of multiplication)

Q 12. Find seven rational numbers between $\frac{-3}{4}$ and 0.

Q 13. In the set of three consecutive natural numbers, the sum of the last two numbers is equal to the three times the first number. Find the sum of all the three numbers.

Q 14. If the value of $3 + 2x$ is equal to $3 - 2x$, then find the value of $5 + 3x$.

Q 15. Two number are in the ratio 3 : 8. If the sum of the number is 165, then find the numbers.

Q 16. A boy travels a distance 25 km, in 4 hours partly on foot at rate 3.5 km/hr and partly on cycle at 9 km/hr. Find the distance on foot.

Q 17. A rectangular box has a length $(5P - 6)m$ and breadth is $(P + 4)m$. What is the breadth of the box, if its perimeter is 20 m.

Q 18. A two digit number is seven times the sum of its digits. The number formed by reversing the digits is 18 less than the original number. Find the original number.

Q 19. Find x if $\frac{3}{x+8} = \frac{4}{6-x}$

Q20. Solve the following equations

a) $4x+5 = 9$

b) $\frac{3x}{4} - \frac{2x+5}{3} = \frac{5}{2}$

c) $\frac{6x+1}{3} + 1 = \frac{x-3}{6}$

d) $3x+2 = 4(x+7)+9$

Q 21. Five years hence, a man's age will be three times his son's age and five years ago, he was seven times as old as his son. Find their present ages.

Q 22. If $0.3(x-1) - 0.5(2x-1) = 0.6$ then find the value of x

Q 23. Four-fifth of number is more than three-fourth of the number by 4. Find the number.

Q 24. Rs.180 contained in a box consist of one rupee, 50 paise and 25 paise coins in the ratio 2:3:4. What is the number of 50 paise coins?

Q 25. Deveshi has a total of Rs.590 as currency notes in the denominations of Rs.50, Rs.20 and Rs.10. The ratio of the number of Rs.50 notes and Rs.20 notes is 3:5. If she has a total of 25 notes, how many notes of each denomination she has?

Note : Revise Chapter 1 and 2